HIGH VOLTAGE TRANSISTORS WITH GRADED EXTENSION

ABSTRACT OF THE DISCLOSURE

[0138] High voltage transistors with high breakdown voltages are provided. These high voltage transistors are formed with graded drain extension regions. The concentration of charge carriers increases farther away from the gate across each drain extension region, causing severe electric fields to be moved away from the gate. Methods and structures of the present invention may be used to increase a transistor's breakdown voltage to the theoretical limit of the device. High voltage transistors with graded extension regions may be p-channel or n-channel MOSFETs.